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## **POLICIES FOR THE PROTECTION AND RESTORATION OF ESSENTIAL FISH HABITATS FROM ALTERATIONS TO RIVERINE, ESTUARINE AND NEARSHORE FLOWS**

### Policy Context

This document establishes the policies of the South Atlantic Fishery Management Council (SAFMC) regarding protection of the essential fish habitats (EFH) and habitat areas of particular concern (EFH-HAPCs) associated with alterations of riverine, estuarine and nearshore flows. Such hydrologic alterations occur through activities such as flood control reservoir and hydropower operations, water supply and irrigation withdrawals, deepening of navigational channels and inlets, and other modifications to the normative hydrograph. The policies are designed to be consistent with the overall habitat protection policies of the SAFMC as formulated and adopted in the Habitat Plan (October 1998) and the Comprehensive EFH Amendment (October 1998).

The findings presented below assess the threats to EFH potentially posed by activities related to the alteration of flows in southeast rivers, estuaries and nearshore ocean habitats, and the processes whereby those resources are placed at risk. The policies established in this document are designed to avoid, minimize and offset damage caused by these activities, in accordance with the general habitat policies of the SAFMC as mandated by law.

### EFH At Risk from Flow-Altering Activities

The SAFMC finds:

- 1) In general, the array of existing and proposed flow-altering projects being considered for the Southeastern United States for states with river systems that drain into the South Atlantic Fishery Management Council area of jurisdiction together constitutes a real and significant threat to EFH under the jurisdiction of the SAFMC.
- 2) The cumulative effects of these projects have not been adequately assessed, including impacts on public trust marine and estuarine resources (especially diadromous

species), use of public trust waters, public access, state and federally protected species, state critical habitat, SAFMC-designated EFH and EFH-HAPCs.

- 3) Individual proposals resulting in hydrologic alterations rarely provide adequate assessments or consideration of potential damage to fishery resources under state and federal management. Historically, emphasis has been placed on the need for human water supply, hydropower generation, agricultural irrigation, flood control and other human uses. Environmental considerations have been dominated by compliance with limitations imparted by the Endangered Species Act for shortnose sturgeon, and/or through provisions of Section 18 of the Federal Power Act, as administered by the Federal Energy Regulatory Commission, which applies to the provision of passage for anadromous species, as well as the provisions of the Fish and Wildlife Act.
- 4) Opportunities to avoid and minimize impacts of hydrologic alterations on fishery resources, and offsets for unavoidable impacts have rarely been proposed or implemented.
- 5) Hydrologic alterations have caused impacts to a variety of habitats including:
  - a) waters, wetlands and benthic habitats near the discharge and withdrawal points, especially where such waters are used for spawning by anadromous species
  - b) waters, wetlands and benthic habitats in the area downstream of discharge or withdrawal points
  - c) waters wetlands and benthic habitats in receiving estuaries of southeast rivers and
  - d) waters and benthic habitats of nearshore ocean habitats receiving estuarine discharge.
- 6) Certain riverine, estuarine and nearshore habitats are particularly important to the long-term viability of commercial and recreational fisheries under SAFMC management, and threatened by large-scale, long-term or frequent hydrologic alterations:
  - a) freshwater riverine reaches and/or wetlands used for anadromous spawning
  - b) downstream freshwater, brackish and mid-salinity portions of rivers and estuaries serving as nursery areas for anadromous and estuarine-dependent species and
  - c) nearshore oceanic habitats off estuary mouths.
- 7) Large sections of South Atlantic waters potentially affected by these projects, both individually and collectively, have been identified as EFH or EFH-HAPC by the SAFMC, as well as the Mid-Atlantic Fishery Management Council (MAFMC) in the case of North Carolina. Potentially affected species and their EFH under federal management include (SAFMC, 1998):
  - a) summer flounder (various nearshore waters, including the surf zone and inlets; certain offshore waters)
  - b) bluefish (various nearshore waters, including the surf zone and inlets)

- c) red drum (ocean high-salinity surf zones and unconsolidated bottoms in the nearshore)
  - d) many snapper and grouper species (live hardbottom from shore to 600 feet, and – for estuarine-dependent species [e.g., gag grouper and gray snapper] – unconsolidated bottoms and live hardbottoms to the 100 foot contour).
  - e) black sea bass (various nearshore waters, including unconsolidated bottom and live hardbottom to 100 feet, and hardbottoms to 600 feet)
  - f) penaeid shrimp (offshore habitats used for spawning and growth to maturity, and waters connecting to inshore nursery areas, including the surf zone and inlets)
  - g) coastal migratory pelagics (e.g., king mackerel, Spanish mackerel) (sandy shoals of capes and bars, barrier island ocean-side waters from the surf zone to the shelf break inshore of the Gulf Stream; all coastal inlets)
  - h) corals of various types (hard substrates and muddy, silt bottoms from the subtidal to the shelf break)
  - i) areas identified as EFH for Highly Migratory Species managed by the Secretary of Commerce (e.g., sharks / inlets and nearshore waters, including pupping and nursery grounds)
- 8) Projects which entail hydrologic alterations also threaten important fish habitats for anadromous species under federal, interstate and state management (in particular, riverine spawning habitats, riverine and estuarine habitats, including state designated areas - e.g. Primary and Secondary Nursery Areas of North Carolina), as well as essential overwintering grounds in nearshore and offshore waters. All diadromous species are under management by the Atlantic States Marine Fisheries Commission and the states. The SAFMC also identified essential habitats of anadromous and catadromous species in the region (inlets and nearshore waters).
- 9) Numerous habitats that have been impacted by these projects causing hydrologic alterations have been identified as EFH-HAPCs by the SAFMC. The specific fishery management plan is provided in parentheses:
- a) all nearshore hardbottom areas (SAFMC, snapper grouper).
  - b) all coastal inlets (SAFMC, penaeid shrimps, red drum, and snapper grouper).
  - c) nearshore spawning sites (SAFMC, penaeid shrimps, and red drum).
  - d) benthic *Sargassum* (SAFMC, snapper grouper).
  - e) from shore to the ends of the sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras, North Carolina; Hurl Rocks, South Carolina; *Phragmatopora* (worm reefs) reefs off the central coast of Florida and nearshore hardbottom south of Cape Canaveral (SAFMC, coastal migratory pelagics).
  - f) Atlantic coast estuaries with high numbers of Spanish mackerel and cobia from ELMR, to include Bogue Sound, New River, North Carolina; Broad River, South Carolina (SAFMC, coastal migratory pelagics).
  - g) Florida Bay, Biscayne Bay, Card Sound, and coral hardbottom habitat from Jupiter Inlet through the Dry Tortugas, Florida (SAFMC, Spiny Lobster)
  - h) Hurl Rocks (South Carolina), The *Phragmatopoma* (worm reefs) off central east coast of Florida, nearshore (0-4 meters; 0-12 feet) hardbottom off the east coast of

Florida from Cape Canaveral to Broward County); offshore (5-30 meters; 15-90 feet) hardbottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary (SAFMC, Coral, Coral Reefs and Live Hardbottom Habitat).

- i) EFH-HAPCs designated for HMS species (e.g., sharks) in the South Atlantic region (NMFS, Highly Migratory Species).

10) Habitats likely to be affected by projects which alter hydrologic regimes include many recognized in state level fishery management plans. Examples of these habitats include Critical Habitat Areas (CHAs) established by the North Carolina Marine Fisheries Commission, either in FMPs or in Coastal Habitat Protection Plans.

#### Threats to Marine and Estuarine Resources from Hydrologically-Altering Activities

The SAFMC finds that activities which alter normative hydrologic regimes of rivers, estuaries, inlets and nearshore oceanic habitats threaten or potentially threaten EFH through the following mechanisms:

- 1) Direct mortality of organisms at withdrawal points through hydrologic regimes

In addition, the interactions between cumulative and direct (sub-lethal) effects among the above factors certainly trigger non-linear impacts that are completely unstudied.

#### SAFMC Policies for Flow-altering Projects

The SAFMC establishes the following general policies related projects resulting in hydrologic alterations, to clarify and augment the general policies already adopted in the Habitat Plan and Comprehensive Habitat Amendment (SAFMC 1998a; SAFMC 1998b):

- 1) Projects should avoid, minimize and where possible offset damage to EFH and EFH-HAPCs.
- 2) Projects requiring expanded EFH consultation should provide detailed analyses of possible impacts to each type of EFH, with careful and detailed analyses of possible impacts to EFH-HAPCs and state Critical Habitat Areas (CHAs), including short and long-term, and population and ecosystem scale effects. Agencies with oversight authority should require expanded EFH consultation.
- 3) Projects requiring expanded EFH consultation should provide a full range of alternatives, along with assessments of the relative impacts of each on each type of EFH, HAPC and CHAs.
- 4) Projects should avoid impacts on EFH, HAPCs and CHAs that are shown to be avoidable through the alternatives analysis, and minimize impacts that are not.

- 5) Projects should include assessments of potential unavoidable damage to EFH and other marine resources, using conservative assumptions.
- 6) Projects should be conditioned on the avoidance of avoidable impacts, and should include compensatory mitigation for all reasonably predictable impacts to EFH, taking into account uncertainty about these effects. Mitigation should be local, up-front and in-kind, and should be adequately monitored, wherever possible.
- 7) Projects should include baseline and project-related monitoring adequate to document pre-project conditions and impacts of the projects on EFH.
- 8) All assessments should be based upon the best available science, and be appropriately conservative so as to follow precautionary principles as developed for various federal and state policies.
- 9) All assessments should take into account the cumulative impacts associated with other projects in the same southeast watershed.

#### References

- SAFMC. 1998a. Final habitat plan for the South Atlantic region: Essential Fish Habitat requirements for fishery management plans of the South Atlantic Fishery Management Council. 457 pp plus appendices.
- SAFMC. 1998b. Final Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region. Including a Final Environmental Impact Statement /Supplemental Environmental Impact Statement, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 136pp.